

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number
WO 2005/041408 A1

(51) International Patent Classification⁷: **H03K 9/00,**
H04L 27/06

(21) International Application Number:
PCT/US2003/029949

(22) International Filing Date:
25 September 2003 (25.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **THOMSON LICENSING S.A.** [FR/FR]; 46, Quai A. Le Gallo, F-92648 Boulogne (FR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MCNEELY, David, Lowell** [US/US]; 7832 Warbler Court, Indianapolis, IN 46256 (US).

(74) Agents: **TRIPOLI, Joseph, S. et al.**; c/o Thomson Licensing Inc., Two Independence Way, Suite #200, Princeton, NJ 08540 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

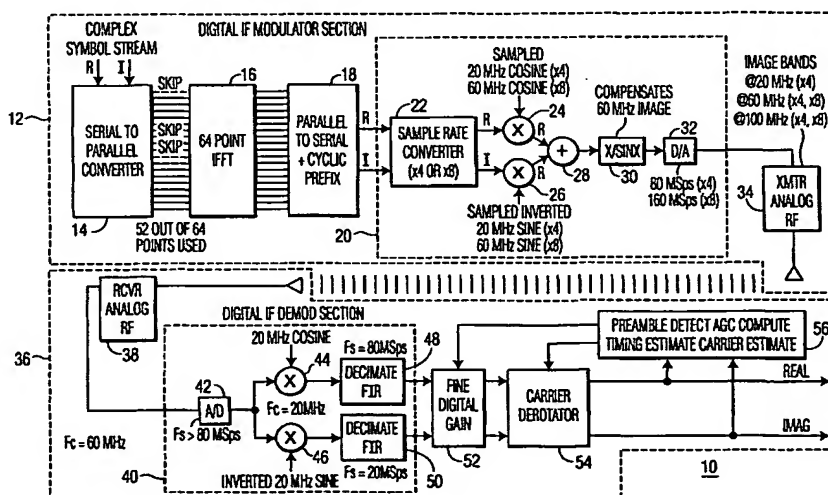
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report
— with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DIGITAL RF TRANSCEIVER WITH MULTIPLE IMAGING MODES



(57) Abstract: The disclosed embodiments relate to a digital radio frequency (RF) circuit (100) that creates a signal in a desired range in a frequency spectrum. The RF circuit (100) comprises circuitry (104) that produces a first sample data modulated signal (105) having a first frequency and a first sample data clock rate. An up-sampler modulator (108) receives the first sample data modulated signal and produces a second sample data modulated signal (109) having a second frequency and a second sample data clock rate. The RF circuit (100) may also comprise circuitry (112) that receives the first sample data modulated signal and the second sample data modulated signal and delivers one of the first sample data modulated signal (105) and the second sample data modulated signal (109) for further processing depending on which sample data modulated signal exhibits desirable characteristics for a given operating environment.